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PL/1962/9

REPORT OF THE

MEETING OF THE FAO COMMITTEE ON PESTICIDES IN AGRICULTURE

Held in Rome, Italy
16-20 July 1962

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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Beginning in January 1955, reports of FAO meetings, held as part of the Program of Work of the then Agriculture Division, were issued in the present form and numbered chronologically within each calendar year.

Since the establishment of the Plant Production and Protection Division in January 1959, the serial annual chronological numbers refer to reports issued by this Division.

The First Meeting of the FAO Panel of Experts on the Use of Pesticides in Agriculture was held in Rome, from 6 to 13 April 1959. (Meeting Report No. 1959/3.)

The Second Meeting of the FAO Panel of Experts, convened jointly with the WHO Expert Committee on Pesticide Residues, on Principles Governing Consumer Safety in Relation to Pesticide Residues, was held in Rome from 9 to 16 October 1961. (Meeting Report No. PL/1961/11.)

The FAO Committee on Pesticides in Agriculture was established in accordance with Resolution No. 8 of the Eleventh Session of the FAO Conference in November 1961.

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Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Rome, Italy
August 1962

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INTRODUCTION

1. In pursuance of the Resolution No.8/61 of the Eleventh Session of the Conference, the Director-General established the FAO Committee on Pesticides in Agriculture on 12 July 1962 under the provision of the FAO Constitution Article VI, Paragraph 2. The first meeting of the Committee was held at the Organization's headquarters from 16 to 20 July 1962.

2. At its first meeting the Committee was composed of the following members:-

1. Dr. de B. Ashworth
   Chief Chemist
   Ministry of Agriculture, Fisheries and Food
   Plant Pathology Laboratory
   Hatching Green
   Harpenden, Herts
   England

2. Ministerialrat Dr. H. Drees
   Bundesministerium für Ernährung
   Landwirtschaft und Forsten
   Bonn
   Germany

3. Dr. H.L. Haller
   Assistant Administrator
   U.S. Department of Agriculture
   Agricultural Research Service
   Washington 25, D.C.
   U.S.A.

4. Dr. H. Hurtig
   Associate Director of Program
   Entomology and Plant Pathology
   Canada Department of Agriculture
   Central Experimental Farm
   Ottawa
   Canada

Dr. Haller served as Chairman of the Committee.

THE COMMITTEE

Statutes

1. The Committee considered the Statutes prepared in accordance with the resolution of the Conference and found them satisfactory. It noted that the Committee is empowered to propose amendments and make its own Rules of Procedure but decided that no such action was necessary at present.

Functions

2. The Committee noted that its primary functions shall be as follows:

(i) to advise and assist the Director-General on matters related to the use and marketing of pesticides in agriculture; and in the planning and organizing of intergovernmental pesticide conferences;

(ii) to meet, in addition to its normal sessions, at the same time as the above conferences in order to take part in such conferences;

(iii) to recommend, in the light of the findings of the 1962 Conference the establishment by the Director-General of subsidiary bodies, under the Committee, to consider specific problems including pesticide residues, occupational hazards, registration, labelling and marketing of pesticides, and resistance to pesticides.

Structure

3. The Committee believes that if results of practical value are to be achieved it must meet regularly and there must be continuity of policy. This may best be ensured by continuity of membership. The secretariat must also be in a position to pursue energetically the work of the Committee throughout the year. It is believed that the aims of the Committee should, in the first instance, be limited to those objectives which stand some hope of being achieved in a reasonable space of time.

4. With the above objectives in view it is recommended that the Committee should be small in numbers, with a chairman elected from among its own members. Whenever the Committee deems it necessary, it may request the Director-General to provide specialists as consultants.

Program of Work

5. 1. To keep under constant review current developments in the use and marketing of agricultural pesticides, and to advise the Director-General on measures required for the promotion and co-ordination of national and international efforts for their better use.

2. To review the progress and to advise on the activities of the working parties organized under the Committee.

3. To advise the Director-General on problems and activities which require collaboration with other international agencies.

4. To advise and assist the FAO staff on the collection and dissemination of information concerning the efficient and safe use of pesticides in agriculture.

5. To consider other problems concerning agricultural pesticides referred to the Committee by the Director-General.

Subsidiary bodies

6. The field of pesticides covers a wide range of subjects including analytical procedures; toxicological and pharmacological aspects; potential health hazards from residues; occupational hazards associated with pesticide use; establishment of residue tolerances; regulatory controls or methods governing the registration, labelling and marketing of pesticides; and development of pest resistance to pesticides. Each one of these problems has developed into a major field of endeavour and requires special attention. Consequently, the major part of the work of the Committee should be carried out by specialists constituted as ad hoc working parties to be established under the Committee by the Director-General. These working parties will report to the Director-General through the Committee.

7. In considering its long-term program of work, and in view of the deliberations at the Eleventh Session of the FAO Conference, the Committee recommends that the forthcoming Conference on Pesticides in Agriculture should give particular attention to the need for the establishment of the following four working parties:-

Working Party on Pesticide Residues

8. The Committee noted with satisfaction that a good beginning has been made in this field by the meeting of the FAO Panel of Experts on the Use of Pesticides in Agriculture held in April 1959, and by the joint meeting of the FAO Panel of Experts on the Use of Pesticides in Agriculture and the WHO Expert Committee on Pesticide Residues, held in Rome in October 1961. The Committee therefore recommends that the proposed Working Party on Pesticide Residues should continue its close collaboration with WHO and should give priority to certain aspects: (1) acceptable daily intake; (2) tolerances; (3) analysis of residues; (4) survey of residues resulting from good agricultural practice; and (5) survey of rate of disappearance of residue deposits.

9. International trade in foodstuffs will increasingly benefit from acceptance by importing and exporting countries of realistic values for pesticide residue levels. The problem is of accelerating importance because governments are now in the process of establishing national tolerances for their own purposes. Unless this practice is based on

a realistic approach it will result in further difficulties in making pest control recommendations for potentially exportable food crops, and raise both real and artificial barriers to the free movement of food.

10. The Committee consequently regards the problem of pesticide residues to be of top priority and suggests that the recommendations of paragraph No. 52 of the Report of the joint FAO/WHO 1961 Meeting be implemented with the shortest possible delay. Those recommendations read as follows:-

"Recommendations to the Director-Generals of FAO and WHO

"1. Studies of the methods used to assess the toxicity of pesticides with the aim of improving the accuracy and speed of the assessment. Examples of methods to be studied are those for determining percutaneous toxicity, and the effects of long-term exposure, including carcinogenesis.

"2. Studies to evaluate the evidence, including toxicological and other pertinent data, published and unpublished, on those pesticides known to leave residues in food when used according to good agricultural practice, and to issue the conclusions in the form of acceptable daily intakes, supported by explanations of the basis for each value.

"3. Studies to define the principles and procedures for determining 'insignificant or inconsequential intakes' of pesticides.

"4. Collaborative studies leading to the production of internationally acceptable methods of measuring pesticide residues in food, for use by enforcement agencies.

"5. The establishment of a pesticide scientific and regulatory information service to collect, collate and disseminate published and unpublished information on all aspects of pesticides used in agriculture and food storage."

11. It should be emphasized that reproducible analytical methods are essential if residue levels are to be of practical value. The Committee itself, however, does not propose to examine analytical methods in the first instance and suggests that use be made of those prepared by others and backed by collaborative work in a number of laboratories. Examples of such methods may be found in the reports of the European and Mediterranean Plant Protection Organization (EPPO) Working Party on pesticide residue analysis and in publications of the Association of Official Agricultural Chemists of the U.S.A. (AOAC).

Working Party on Registration, Labelling and Marketing of Pesticides

12. In a manner analogous to regulations concerning foodstuffs, there is a need for recognized and acceptable standards for formulated and technical pesticides to facilitate international trade. The farmer also needs guarantees of quality together with dependable and compre-

hensive labelling on precautions and use of a pesticide. This is of particular importance because he is in no position to evaluate a pesticide for himself, and for this very good reason most developed countries have introduced their own approval schemes.

13. There is an additional reason which has given increased urgency to better international understanding in the registration, labelling and marketing of pesticides. Some countries, for purposes of trade, are adopting common standards, while others are not yet in a position to establish adequate approval schemes for the critical evaluation of their own pesticides or of those produced by others. These difficulties would be partly resolved if internationally acceptable standards were available.

14. A new pesticide or formulation coming on to the market should meet some such requirements as those elaborated in paragraphs 9, 10 and 11 of the Report of the Meeting of the FAO Panel of Experts on the Use of Pesticides in Agriculture held jointly with the WHO Expert Committee on Pesticide Residues in 1961. However, this Committee considered that the essential steps in the approval of a pesticide could be best summarized as follows:- (a) safety to both user and consumer; (b) safe transport of pesticides in concentrated form; (c) specifications for the formulated and technical pesticides based on combined chemical requirements and as critically biological criteria as knowledge will permit; (d) field efficiency and labelling. It is recognized that not all of these topics are of equal international concern. Thus, labelling on field efficiency can be considered only on an area basis because of variations in pest incidence and climate.

15. The Committee has noted with satisfaction that WHO and ILO are also interested in (a) of the preceding paragraph. Considerable progress has been made on (b) by a committee of the Council of Europe, while the analytical part (c) is being undertaken by the Association of Official Agricultural Chemists (AOAC) and the Collaborative Pesticides Analytical Committee of Europe (CPAC) by publishing tested methods of analysis. The Committee therefore recommends that the working party on registration, labelling and marketing of pesticides should work in collaboration with these and other bodies in order to arrive at practical solutions to the above problems as quickly as possible.

Working Party on Resistance to Pesticides in Agricultural Pests

16. In 1959 the FAO Panel of Experts on the Use of Pesticides in Agriculture and the North American symposium on resistance[1] expressed concern that resistance to pesticides was becoming an increasingly important and a more frequently recurring phenomenon in pest species of importance in agriculture. The Committee therefore expressed the hope that FAO should interest itself in this problem and that the scope of the Committee should be broadened to include in its long-term program resistance to pesticides of weeds and plant pathogens.

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[1] Research Progress on Insect Resistance - Ent. Soc. of America Miscellaneous Publications, Vol. II No. 1, October 1960

17. In considering a program that would yield practical results of value to the largest number of interested countries, the Committee suggests that a working party on resistance should profitably devote attention to:

1. the development and/or standardization of methods of detection and measuring resistance to pesticides in species of importance in agriculture;

2. the accumulation, interpretation and dissemination of data on normal variations in dosage-mortality responses in treated and untreated populations of economic importance in agriculture;

3. regional co-ordination in the evaluation of alternative compounds.

18. The Committee noted the increasing emphasis which is being placed on studies of qualitative and quantitative selective toxicity in both pest and beneficial species and on the increasing efforts made by crop protection specialists to integrate the chemical and biological control methods of crop protection.

Working Party on Hazards from the Use and Handling of Pesticides in Agriculture

19. Potential hazards from pesticides concern different groups of people: those dealing with the manufacture, formulation and transportation of pesticides, and those using them in pest control. The hazards to the first group is the primary responsibility of ILO/WHO, although FAO is also interested. The Committee therefore felt that the Working Party should give its main attention, in collaboration with WHO/ILO, to the following: (1) field safety, under a variety of crop and climatic conditions with emphasis on personal protection; (2) disposal of containers; and (3) special problems as aerial applications and fumigation of commodities.

PESTICIDE INFORMATION SERVICE

20. The growing need for a Pesticide Scientific and Regulatory Information Service has been brought out on previous occasions. The 1961 joint FAO/WHO meeting of experts recommended that both FAO and WHO give serious consideration to the establishment of such a service. Similarly, this subject was discussed at the 11th Session of the FAO Conference in November 1961, resulting in the adoption of the following statement:-

> "Since the prompt exchange of accurate information on scientific advances and regulatory developments concerning pesticides is essential to international understanding, the Conference urged the Director-General to explore the possibility of establishing immediately a post, the incumbent of which would assume full-time responsibility for the assembly and dissemination of information on pesticides."

In the above statements the emphasis was placed on the role that FAO would play in promoting the exchange of information as a service to member countries. This Committee also wishes to urge the immediate implementation of these recommendations, since the collection, collation and distribution of the published and unpublished scientific and regulatory information on pesticides and their use will be indispensable to the work of this Committee and the working parties.

21. For the purposes of toxicity clearance and approval, Government laboratories in many countries receive information on the safe use of pesticides in agriculture and food storage, in particular in respect to persistence, residue analysis and hazards to workers handling the pesticides. This information, which in many instances remains unpublished, originates from both governmental and industrial sources. The FAO/WHO Meeting considered that governments should be urged to make available to FAO information on pesticide efficiency, persistence, residue analysis and toxicity for future FAO and/or WHO working parties that will be responsible for examining data on these subjects.

For similar purposes information is required on experiences and practices on the registration and approval of pesticides.

Detailed information is also required from countries on the status of pest resistance to pesticides as a real or potential problem in agriculture, on methods of detecting and measuring it, on normal variations in dosage-mortality responses in treated and untreated populations and on experiences with alternative compounds.

It is proposed that the forthcoming FAO Conference on pesticides should examine ways and means as to how these objectives may be achieved.

THE INTER-GOVERNMENTAL CONFERENCE ON PESTICIDES

Scope and objectives

22. As indicated in the FAO Conference Resolution, the forthcoming inter-governmental Conference on Pesticides in Agriculture would have as its purpose the formulation of a recommended plan for desirable future action covering scientific, legislative and regulatory aspects on the use of pesticides.

23. As stated in paragraph 9, the establishment of residue tolerances, without sufficient scientific justification, may seriously interfere with international trade. The Committee therefore hopes that the Conference will give high priority to this matter and will call attention to the need for postponing action in legislative control of residues in food until results of the program initiated by the joint FAO/WHO meeting are available for consideration.

24. The reports of the 1959 and 1961 meetings of the FAO Panel of Experts on the Use of Pesticides in Agriculture draw the attention of governments to the needs for both general and specific research that can be accomplished within the resources of individual governments and that would be of importance to the use of pesticides as an important tool in food production and conservation. This Committee therefore wishes to draw the attention of the forthcoming Conference on pesticides to the contributions and assistance that individual governments may provide for the long-term program of the Committee as outlined in this report. It is anticipated that there will be a need to seek the aid of official scientists and others in schemes of co-operative and co-ordinated investigations in order to provide the information required, and to evaluate or develop methods of analysis or detection. This Committee hopes that future FAO/WHO joint efforts may focus attention on those relevant toxicological problems that are currently on a controversial state, in the belief that government research agencies will carry out research work which will help resolve controversies which are attributable to the inadequacy of scientific evidence.

25. In particular, the report of the joint FAO/WHO Meeting in 1961 stressed the need for studies on methods used to assess the toxicity of pesticides with the aim of improving the accuracy and speed of assessment. For example, agreed methods are needed for determining percutaneous toxicity, the effects of long-term exposure, and for the evaluation of evidence that will lead to conclusions regarding acceptable daily intakes of pesticide residues in food resulting from good agricultural practice. Studies to define the principles and procedures for determining "insignificant or inconsequential intakes" of pesticides are also required. Collaborative studies leading to the designation of internationally acceptable methods of measuring pesticide residues in food have already been mentioned. Joint action on these matters by FAO and WHO is essential for the prevention of controversies which may become barriers to the international movement of food. At the forthcoming Conference on Pesticides, governments should be urged to extend their co-operation in implementing these recommendations.

26. The Committee prepared a provisional agenda for the pesticides conference, which is annexed hereto.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

FAO Conference on Pesticides in Agriculture

Rome, 12-17 November 1962

PROVISIONAL AGENDA

1. Opening address

2. Election of Chairman and Vice-Chairman

3. Adoption of Agenda

4. Appointment of Drafting Committee and Rapporteurs

5. Report of the FAO Committee on Pesticides in Agriculture - terms of reference, future programs and proposed subsidiary bodies.

6. Pesticide residues:

   (a) Toxicology
   (b) Tolerances
   (c) Analysis
   (d) Surveys for collecting residue data

7. Registration, approval and labelling of pesticides:

   (a) Registration and approval requirements on the basis of user and consumer safety;
   (b) Specifications for technical grade and formulated chemicals and for general criteria in evaluating effectiveness;
   (c) Labelling requirements with regard to efficiency and safety in field use;
   (d) Labelling with regard to transport of chemical concentrates.

8. Pest resistance to pesticides:

   (a) Standardization of methods of detection and evaluation;
   (b) Collection, interpretation and dissemination of data;
   (c) Evaluation of alternative compounds.

9. Occupational hazards in the manufacture, transportation and use of pesticides in agriculture

10. Other hazards involved in the use of pesticides in agriculture

11. Possible action by FAO and other UN Agencies

12. Possible governmental action

13. Adoption of recommendations